

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant's Attorney, Mr. Anthony Smyth on 05/11/2009.

**In the claims** of Amendment filed on 02/27/2009:

**Claim 1:** line 8, after "the input detector", - - and the gain signal - - has been deleted; and

line 9, "to provide an output signal.", has been replaced by - - wherein the synchronized input and gain signals are combined to provide a companded output signal. - -.

**Claims 27-43:** Canceled.

**Claim 72:** line 11, after “the input signal”, - - and - - has been deleted; and  
line 13, “a predetermined period.” has been replaced by - - a  
predetermined period, and  
modify the synchronized input signal with the synchronized gain signal to  
obtain a companded output signal. - -.

**Claim 83:** line 5, “the gain calculate signal to provide an output signal, ”, has  
been replaced by - - the gain calculate signal, wherein the synchronized input and gain  
signals are combined to provide a companded output signal, - -.

**Claim 90:** line 5, “the gain calculate signal to provide an output signal, ”, has  
been replaced by - - the gain calculate signal, wherein the synchronized input and gain  
signals are combined to provide a companded output signal, - -.

**Claim 102:** line 7, “the gain signal to provide an output signal, ”, has been  
replaced by - - the gain signal, wherein the synchronized input and gain signals are  
combined to provide a companded output signal, - -.

**Claim 109:** line 7, "the gain signal to provide an output signal, ", has been replaced by - - the gain signal, wherein the synchronized input and gain signals are combined to provide a companded output signal, - -.

### **Allowable Subject Matter**

2. **Claims 1-25, 44-46, and 48-120 are allowed** which have been re-numbered to as 1-9, 15, 10, 16, 11, 12, 13, 17, 18, 19, 20, 22, 23, 24, 25, 27, 26, 29, 30-53, 55, 54, 66, 67, 28, 56, 57, 58, 59, 60, 61, 62, 63, 68, 69, 70, 71, 73, 72, 74, 75, 76, 77, 78, 79, 80, 82, 81, 84, 84, 14, 21, 85, 86, 87, 88, 90, 89, 91, 92-101, 64, and 65, respectively.

The following is an examiner's statement of reasons for allowance:

Regarding independent **claim 1**, the prior art of record fails to anticipate or render obvious a compander comprising: an input detector configured to detect zero crossings of the input signal and failures to have a zero crossing of the input signal within a predetermined period, gain calculate logic responsive to the input signal and the input detector for generating a gain signal including a gain value, and a synchronizer responsive to the input detector for synchronizing the input signal and the gain signal, wherein the synchronized input and gain signals are combined to provide a companded output signal, in combination with other limitations, as specified in the independent claim 10.

Regarding independent **claim 72**, the prior art of record fails to anticipate or render obvious a signal processing method for use with a compander comprising the step of signal processing the local power estimator signal and the external power estimator signal to produce a power estimate, wherein the compander is configured to synchronize an input signal and a gain signal upon detection of a zero crossing of the input signal, and synchronize the input signal and the gain signal upon detection of a failure to have a zero crossing of the input signal within a predetermined period, and modify the synchronized input signal with the synchronized gain signal to obtain a companded output signal, in combination with other limitations, as specified in the independent claim 72.

Regarding independent **claim 83**, the prior art of record fails to anticipate or render obvious a compander comprising: gain calculate logic responsive to the input signal for calculating a gain calculate signal, a synchronizer responsive to the input signal and the gain calculate signal for synchronizing the input signal and the gain calculate signal wherein the synchronized input and gain signals are combined to provide a companded output signal, a computation engine responsive to the first input and configured to supply an initial power estimate in accordance with the first input, a second input representative of a signal characteristic associated with the time between events, and combiner logic for combining the initial power estimate with the second input for producing an initial power estimate, and detection logic for detecting

a predetermined condition of the input signal, wherein the gain calculate signal is generated only after the predetermined condition of the input signal occurs, wherein the predetermined condition includes at least one of a zero crossing and a failure to have a zero crossing within a predetermined period, in combination with other limitations, as specified in the independent claim 83.

Regarding independent **claim 90**, the prior art of record fails to anticipate or render obvious a compander comprising: gain calculate logic responsive to the input signal for calculating a gain calculate signal, a synchronizer responsive to the input signal and the gain calculate signal for synchronizing the input signal and the gain calculate signal, wherein the synchronized input and gain signals are combined to provide a companded output signal, a computation engine responsive to the first input and configured to supply filter parameters in accordance with the first input, a second input representative of a signal characteristic associated with the time between events, a filter responsive to the filter parameters for processing the second input for producing an initial power estimate, and detection logic for detecting a predetermined condition of the input signal, wherein the gain calculate signal is generated only after the predetermined condition of the input signal occurs, and wherein the gain signal includes a gain value, wherein the predetermined condition includes at least one of a zero crossing and a failure to have a zero crossing within a predetermined period, in combination with other limitations, as specified in the independent claim 90.

Regarding independent **claim 102**, the prior art of record fails to anticipate or render obvious a compander comprising: gain calculate logic responsive to the input signal and the input detector for calculating a gain signal, the gain signal includes a gain value, a synchronizer responsive to the input detector for synchronizing the input signal and the gain signal, wherein the synchronized input and gain signals are combined to provide a companded output signal, power estimator logic responsive to the monitor logic for providing the gain signal, a first input representative of a time between events, a computation engine responsive to the first input and configured to supply an initial power estimate in accordance with the first input, a second input representative of a signal characteristic associated with the time between events, and combiner logic for combining the initial power estimate with the second input for producing an initial power estimate, wherein the gain signal is generated only after the predetermined condition of the input signal occurs, in combination with other limitations, as specified in the independent claim 102.

Regarding independent **claim 109**, the prior art of record fails to anticipate or render obvious a compander comprising: gain calculate logic responsive to the input signal and the input detector for calculating a gain signal, a synchronizer responsive to the input signal and the gain signal for synchronizing the input signal and the gain signal, wherein the synchronized input and gain signals are combined to provide a companded output signal, power estimator logic responsive to the monitor logic for providing the gain signal, a first input representative of a time between events, a

computation engine responsive to the first input and configured to supply filter parameters in accordance with the first input, a second input representative of a signal characteristic associated with the time between events, and a filter responsive to the filter parameters for processing the second input for producing an initial power estimate, wherein the gain signal is generated only after the predetermined condition of the input signal occurs, and wherein the gain signal includes a gain value, in combination with other limitations, as specified in the independent claim 109.

**Claims 2-25, 44-46, 48-71, 74-82, 100, 101 and 119-120** are allowed by virtue of their dependency on **claim 1**.

**Claim 73** are allowed by virtue of their dependency on **claim 72**.

**Claims 84-89** are allowed by virtue of their dependency on **claim 83**.

**Claims 91-99** are allowed by virtue of their dependency on **claim 90**.

**Claims 103-108** are allowed by virtue of their dependency on **claim 102**.

**Claims 110-118** are allowed by virtue of their dependency on **claim 109**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Con P. Tran whose telephone number is (571) 272-7532. The examiner can normally be reached on M - F (8:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Vivian C. Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2614

/CPT/  
May 18, 2009

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2614